

REMARKS

Claims 1-20 are now pending in the application. By this Amendment, claim 11 has been amended to recite a method instead of a use. Claim 11 has previously been withdrawn by the Examiner. No new matter has been added by this Amendment.

Claim 10 has been rejected under 35 U.S.C. §112, second paragraph, for being indefinite. Specifically, the Office Action asserts that claim 10 omits the essential step of how to make dissolved vanadium. Further, the Office Action asserts that the specification does not teach how dissolved vanadium is made. Applicants respectfully submit that the specification, at page 3, line 42 to page 4, line 9, sets forth vanadium compounds suitable as starting materials for preparing dissolved vanadium, as claimed. By way of non-limiting example, vanadyl oxalate is suitable for preparing dissolved vanadium. In addition, the specification describes suitable reducing agents for obtaining V^{4+} from V^{5+} . Moreover, a skilled artisan would readily be able to identify additional vanadium containing compounds for preparing dissolved vanadium.

Claims 1-10 and 12-20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,977,126 to Mauldin et al. in view of U.S. Patent No. 6,274,763 to Ruedinger et al.

The Office Action asserts that the amount of copolymer suggested in Ruedinger and the fluidized air rate in Mauldin, if scaled to the total amount of catalyst precursor used in this application, would yield parameters that correspond to and are comparable with the values of B_{susp} and Q_{gas} recited in independent claim 1. However, as set forth at page 2, lines 17-22, of Applicants' disclosure, it is virtually impossible to scale-up the most important operating parameters from a pilot plant to the production scale. Moreover, as described in the introductory part of the present specification - referring to Mauldin - the quality of the coating of catalysts prepared in fluidized bed apparatus decisively depends on the operating parameters of the apparatus, which previously had to be determined empirically. Such empirical studies, however, are cumbersome and costly, especially because suitable theoretical models are not available. Accordingly, once a set of suitable operating parameters has been determined, it has in the past

not been possible to deduce a new parameter set therefrom if one or more of the initial parameters are altered. In addition, the studies would have to be carried out on the production scale and would have to be repeated with every change of an individual operating parameter.

Applicants note that Mauldin, the citation relied on in the Office Action, clearly shows that extensive studies, such as those summarized in Table 2 of Mauldin, in particular at col. 7, line 37 to col. 8, line 44, only provide indications of the influences of individual parameters on the coating results.

In stark contrast to the related art, Applicants have surprisingly found that certain operational parameters are interrelated and that this relationship can be expressed by a comprehensive parameter K, as recited in the pending claims. Thus, as set forth at page 3, lines 24-31, of Applicants' disclosure, the claimed process yields high quality catalyst layers formed on support bodies as abrasion-resistant bodies and avoids that individual catalyst coated bodies adhere to each other. Consequently, the claimed subject matter allows a skilled artisan to determine if one operational parameter has to be changed, how to adapt the other operational parameters while maintaining high coating quality without having to resort to costly and time-consuming tests on a production scale.

As already changing a single operational parameter may drastically change the quality of the catalyst layer, a skilled artisan would not have considered combining Mauldin with Ruedinger, which is not even concerned with the general process of the present application using a fluidized bed of support bodies, but suggests, at col. 3, lines 66-67, a catalyst production in a rotary tube furnace or by drum coating. In addition, Mauldin suggests a catalyst for the Fischer-Tropsch synthesis but fails to suggest a catalyst for a gas-phase oxidation.

Applicants respectfully request that claim 11, drawn to a method of preparing phthalic anhydride from o-xylene, naphthalene, or mixtures thereof, be rejoined upon the allowance of elected claims 1-10 and 12-20.

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants concurrently herewith submit the requisite fee for a Petition for a three-month Extension of Time. Applicants believe no additional fee is due with this response. However, if any such additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 13111-00037-US1 from which the undersigned is authorized to draw.

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Respectfully submitted,

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